

**WEST****End of Result Set**

Generate Collection

Print

L2: Entry 1 of 1

File: USPT

Mar 30, 1999

DOCUMENT-IDENTIFIER: US 5890140 A  
TITLE: System for communicating with an electronic delivery system that integrates global financial services

US Patent No. (1):  
5890140

Drawing Description Text (19):  
FIG. 17 is an illustration of a screen display for creating a cash transaction.

Drawing Description Text (25):  
FIG. 23 is an illustration of a first level screen display for creating a securities transaction.

Drawing Description Text (26):  
FIG. 24 is an illustration of a second level screen display for creating a securities transaction.

Drawing Description Text (28):  
FIG. 26 is a flow chart showing the process for creating a report using the applications software.

Detailed Description Text (26):  
The CFs 12 can be used to initiate instructions to the financial institution to perform various functions such as transferring funds, moving securities, initiating a letter of credit, etc., and can route the instructions to the appropriate service. The CFs 12 can also receive and integrate information such as account statements from the different services and/or different locations, import instructions and export information from different locations, import instructions and export information from and to other systems, or create customized reports by using a variety of tools provided to the customer. The CFs 12 use a local database to integrate the data associated with instructions, statements, and other information such as tables or libraries used at the workstation.

Detailed Description Text (38):  
The third class of messages consists of those referred to as status or event messages. These messages are created by the OLTPs 14(1,2, . . . n) upon receiving TI messages, transferring or receiving funds, or making other transactions ordered by or affecting the customer. Event messages are used to inform the customer of any activity which they are entitled to receive, such as activity occurring in the customer's accounts.

Detailed Description Text (46):  
Referring to FIG. 6, a message flow for status and event data is shown. Status and event messages are periodically created by the OLTPs 14(1,2, . . . n) and sent to the GID 10. These messages contain information such as the status of a TI, the receipt or transfer of funds in a customer's account, and so forth. When the status and event messages are received by the GID 10, the entitlement subsystem 16 checks the construction and entitlements of the messages and then stores the messages in the message database of the repository 11.

Detailed Description Text (48):  
In this manner, the present system provides timely access to financial services throughout the world in essentially a real time system. Transactions or activities occur in customers' accounts around the world in bank branches where the customer

transacts business. When a transaction or other activity occurs, a message is created based on that event and sent through the delivery system of the present invention to the appropriate customer facility 12(1,2, . . . i).

Detailed Description Text (49):

For example, a customer that has a cash account at a bank branch in Singapore can receive funds into his account from a third party anywhere in the world. The software at the branch in Singapore will recognize the receipt of funds and create an event message to inform the customer that the receipt of funds event occurred. The event message is then sent through the GID 10 of the present invention and stored in the repository 11. The customer can then retrieve the event message by sending a retrieval request (GI) from the customer's CF 12(1,2, . . . i) to the GID 10.

Detailed Description Text (54):

The PC transport has been developed to allow customers to connect their PC-based workstations 12(1-4) to the GID 10. Data exchanged between the PC transport and the business applications software in the CFs 12(1-4) can be done, for example, via standard operating system files (e.g., files supported by the operating system sold under the trademark "MS-DOS") on the PC. Two directories of files are used for the messages. The INBOUND directory contains messages received from the GID 10. The OUTBOUND directory holds messages to be sent to the GID 10. Messages to be sent to the GID 10 are each created as a separate file in the OUTBOUND directory with an extension of SND.

Detailed Description Text (59):

FIG. 9 illustrates the flow of the shutdown process used by the PC transport. As shown in FIG. 9, upon a system failure or the operator selecting Exit from the menu of the business application, the system will begin shutting down. At this time, a SHUTDOWN.ERR file is created in the INBOUND directory and the business application will close as soon as possible without losing any file integrity. After deleting the SHUTDOWN.ERR in the INBOUND directory, a file SHUTDOWN.OK will be created in the OUTBOUND directory by the business application software before it exits. The PC transport program terminates only after the SHUTDOWN.OK file is detected. The operator can then exit the business application and switch off the machine.

Detailed Description Text (61):

If the link goes down, a file called NOLINK.ERR will be created in the INBOUND directory. If the COMMS module queue becomes full, a file QUEFULL.ERR will be created in the INBOUND directory. Both of these files will be deleted by the PC transport program when the error condition is rectified.

Detailed Description Text (62):

A SYSTEM.LOG file is created in the INBOUND directory and appended to when a non-fatal error occurs. For example, this LOG file is used when there is a failure to queue a SND file and a re-try is attempted. A SYSTEM.ERR file is created when a PC system failure occurs during the PC transport program processing with the contents of the file containing the reason for the failure. The business application can then be shut down as soon as possible and an operator summoned. When the system is restarted, the PC transport program will delete the SYSTEM.ERR file after displaying the information to the operator. If the link is on, the PC transport program will check that the files with an extension of IN are being processed. If they are not, the system will notify the operator by flashing a message and/or beeping.

Detailed Description Text (88):

If the conversational receive mode is requested (meaning that the application software wants to send a message back to the GID), a response message is created, put into the COMM AREA, a synchronization point is issued, and control is returned to the engine. The engine then sends the response message to the GID. When the GID receives and processes the response message, the GID sends an acknowledgment back to the engine. The engine processes the acknowledgment, updates the sequence numbers, and issues a synchronization point.

Detailed Description Text (92):

The send process begins with the CF (or OLTP) application program creating a message that it wants to send, putting the message into the CICS COMM AREA, and linking to the protocol engine. After linking the application program to the protocol engine, the engine wakes up and formats an applications level protocol header for the message. The engine then allocates a conversation with the GID and the GID responds by establishing a conversation. The engine then determines the proper sequence number for the message

by looking at the control file to get the last sequence number. The engine then sends the message with its appropriate sequence number to the GID.

Detailed Description Text (99):

A script generator utility within the CF prototype component generates test format messages and places them in the CF prototype message queue. The user can alter test scripts by inputting messages from a flat file or from fixed or variable length sources (created using an MVS/TSO editor).

Detailed Description Text (111):

By selecting the Cash Management icon or menu item from the display screen shown in FIG. 15, a user can create, verify, authorize, modify, delete, and repair cash transactions, as shown in FIG. 16. The software supports all transaction types and allows a user to create a free format or preformatted transaction, perform a local transaction authorization, and interact with a variety of bank branches using a variety of different currencies.

Detailed Description Text (112):

Each user can perform only one of the create, verify, and authorize functions. A security manager can determine whether or when verification and authorization are required. Each transaction resides in the database and has a status that determines the next action required against it.

Detailed Description Text (113):

After selecting the Cash Management application, the application will present a window (see FIG. 17) to collect information about the transaction the user wants to create. Included in the window is a format selection box that allows the user to select between three different types of formatting for the transaction: free format, preformat, or group format. The free format feature allows the user to create a cash TI by entering data into all required and all appropriate optional fields. The preformat feature allows the user to create a cash TI using a partially or fully completed cash transaction template (e.g., all fields completed except the amount of the transaction). The group format is a collection of related preformats, such as payroll, accounts receivable, accounts payable, and treasury.

Detailed Description Text (127):

By selecting the Securities icon or menu item from the main window display shown in FIG. 15, the user can create, verify, authorize, view affirmations, and view all securities transactions, as shown in FIG. 22. The user can also create, verify and authorize a trade instruction. The user can select a number of different portfolios, as well as settlement locations. As with the Cash Management application, each user can perform only one of the create, verify, and authorize functions in the Securities application, as determined by the security manager.

Detailed Description Text (128):

After selecting the Securities application, the application will present a window (see, e.g., FIG. 23) to collect information about the instruction the user wants to create. The window includes a number of lists to help collect information about the instruction, including the transaction type, instrument type, portfolio, custody account, and settlement location.

Detailed Description Text (133):

The Securities application includes a verification feature that can be used to require a second person to confirm that the instruction details are correct. Verification takes place after a transaction is created and before it is authorized. After selecting the Verify function from the Transactions menu, a list of transactions requiring verification are displayed. The transactions are verified merely by selecting the transaction from the list of transactions awaiting verification.

Detailed Description Text (139):

FIG. 25 illustrates the flow of setting up a message retrieval request, sending the message retrieval request, and receiving a message in the inbound message handler (IMH) of the CF 12. The flow begins by the user creating a message retrieval request using the message retrieval module and entering criteria for the request. The message retrieval request is then formatted and put in the OUTBOUND directory with the extension SND.

Detailed Description Text (147):

Using the electronic delivery system of the present invention, the Report Viewer

application can be used to provide customers with a global view of the customer's cash management, securities, and trade activities, in a single window. For example, the Report Viewer application can be used to create and display securities, trade, and cash management reports all on the same display screen, as shown in FIG. 28.

Detailed Description Text (149):

The Account Balance Export report formats the data in the Account Statement Details report in a form suitable for export and automatically creates an export file.

Detailed Description Text (150):

The Account Statement report shows summary information on cash transactions moving across an account for each enterprise, branch, and customer, grouped by account number. For each date shown on the report, the report shows the opening balance, the transactions on that date, and the closing balance. For each transaction, the report shows a first line containing a transaction description, the value date, and the transaction amount, and a second line containing the bank reference number and the customer reference number. The report ends with a recap of the number and total amount of debits and credits. Further details of the transaction are available by creating a transaction detail advice report.

Detailed Description Text (162):

By selecting the Messages to Bank icon or menu item, the user can display a window for creating a free-form message to a bank branch. The messages window provides the starting point for all activities associated with sending free-format messages to a bank branch. Message support may be provided for cash management and securities accounts and trade-related information for a number of bank branches.

Detailed Description Text (164):

The messages application contains a summary screen that displays a line of information for each message containing the following fields: business, reference, branch, account, and status. The free format message window is used for creating, modifying, authorizing, and viewing messages. The title of the window and the command buttons change to reflect the function being used.

Detailed Description Text (180):

Workstations 12(1,2) on the LAN 50 are used for creating transactions and report requests, and for viewing the requested data. The LAN facility can use either workstations with hard disks or diskless workstations. Once the software is loaded into the workstation's memory (RAM), the workstation can perform communications functions and initiate transactions and reports, as well as retrieve data and personalized report formats.

Detailed Description Text (183):

The shared resources provided by the LAN facility 50 allow for reduced communications charges, fewer man-hours spent duplicating work, and lowered hardware costs. Shared resources also provide users the opportunity to concurrently access shared data and to work together on single transactions. For example, a customer (e.g., large corporation) may want various users to have access to customized reports created by other users on the LAN, or the customer may want different users to verify or authorize transactions that are initiated by other users before transmitting to the GID 10. The LAN facility allows users to work concurrently and together without leaving their individual workstations.

Detailed Description Text (186):

With the LAN facility, standardized and customized reports and report formats only need to be created once, by any authorized user at any workstation on the LAN, to then be accessible to any other authorized user at any other workstation on the LAN. All users work off of the same shared data that is downloaded just once. Reports may be printed on either local or shared network printers, and data may be exported to other shared network applications.

CLAIMS:

12. The system of claim 11, further comprising means for deriving a second menu structure in response to a financial service selected from said first menu structure, said second menu structure having data entry fields for inputting data for creating a financial message of said second type.

25. An electronic delivery system for delivering financial services to a customer at a

customer's facility, comprising:

a computer at one of a plurality of customer facilities located in different geographic locations and time zones having means for creating and sending messages, including transaction instruction messages, and means for receiving messages, including status and event messages;

a plurality of on-line transaction processor facilities located in different geographic locations and time zones for providing financial services;

means for generating a plurality of said status and event messages to be sent from said on-line transaction processors;

means for electronically connecting the customer facility to the on-line transaction processor facilities by routing messages from said computer at said customer facility to the on-line transaction processor facilities, via a global interface device, said global interface device comprising means for determining a proper on-line transaction processor facility to route a message to, means for storing the message at least when the proper on-line transaction processor facility is unavailable, means for queuing messages, and means for forwarding the message to the proper on-line transaction processor facility when the proper on-line transaction processor facility becomes available; and

means for retrieving said status and event messages at said customer facilities in substantially real time from said on-line transaction processors via said global interface device and means for retrieving said status and event messages when said on-line transaction processors are not operational.

**WEST****End of Result Set**

Generate Collection

Print

L3: Entry 1 of 1

File: USPT

Mar 30, 1999

DOCUMENT-IDENTIFIER: US 5890140 A

TITLE: System for communicating with an electronic delivery system that integrates global financial services

US Patent No. (1):  
5890140Detailed Description Text (29):

The messages transferred through the system (i.e., transaction instruction, product inquiry, and status, event and service messages) contain essentially two parts, as shown in FIG. 4. First, a header portion 32 of each message contains a series of defined data elements that identify the customer, user, location, branch, account, message type, date, time, and so forth. Second, a main body (business or service message) portion 33 of the message contains the specific instruction, inquiry, status, or event information intended to be sent between the OLTPs 14(1,2, . . . n) and the CFs 12(1,2, . . . i), or between the CFs and the GID 10. The header and main body portions of the messages are in a structured format, either adhering to industry standards (e.g., message formatting standards managed by the Society for Worldwide Interbank Financial Telecommunications ("S.W.I.F.T.")), or meeting administrative requirements of the delivery system.

Detailed Description Text (56):

Incoming messages are read from the INBOUND directory. The files have an extension of IN and contain a unique sequential number. The business application software will rename the file's extension to PRO when the message has been processed so that the processed files can be easily identified and deleted.

Detailed Description Text (57):

A process of sending and receiving messages with the PC transport program is shown in FIG. 8. The transport program scans the OUTBOUND directory at predetermined time intervals (e.g., 40 seconds), reading files with an extension of SND. SND data is then passed to the COMMs module and, when successfully read, the SND file extension is renamed to QUE. If the COMMs module fails to queue the message (because the message contains invalid data), the SND file extension is renamed to RJQ. When the message has been sent by the COMMs module, an identifying reference and time stamp is appended to the file and the file extension is renamed to GID. When specified in the setup procedure, a file with the extension of ACK will be written to the INBOUND directory containing the acknowledgment message. Message priority is initially based on the time stamp of the SND file, but the COMMs module can be reordered based on message priority.

Detailed Description Text (116):

A library look-up list feature is available when using the cash management application in the free format mode. The library look-up list provides a number of tables that allow the user to look up information to complete various fields for the cash transaction instruction. The tables available include an account table, a beneficiary table, a bank-to-bank table, and a bank table. The account table displays the bank branch name, account numbers at that branch, and the currency of each account. The beneficiary table displays the names of beneficiaries and their account numbers at the receiving bank. The bank-to-bank table displays information regarding the method of advice, information to parties, payment method, and value date for the beneficiary, depending on the type of transaction involved. The bank look-up table displays data on the different banks through which payments may be channeled. This data includes the bank's name, country code, local clearing code, and S.W.I.F.T. address and CHIPS

identification, if applicable. The local clearing code is used to identify the bank to its local clearing system, such as the German Bank Leitzel code, FedWire number, and the UK sort code.

Detailed Description Text (129):

The transaction type list can include receive versus payment transactions (receiving securities into customer's account against an exchange of cash), receive free transactions (receiving securities into customer's account free of a cash payment), deliver versus payment transactions (delivering securities from customer's account against an exchange of cash), deliver free (delivering a security from customer's account free of a cash payment), and switch transactions (transferring a designated quantity of a security between two identified safekeeping accounts).

Detailed Description Text (154):

The Asset Statement Details report provides a detailed listing of information for each security in a customer account as of the selected report date. The report separates the descriptions of individual securities and provides the following information for each security: identification of the security (i.e., the security ID number type, the security number, and a description of the security), settled and traded amounts (i.e., the quantities of securities traded and settled), the status of settled positions, and pending transactions. For each pending transaction, the report lists the due date, transaction code, the nominal amount, currency and total settlement amount. If there are no pending transactions for the security, the report states "No Pending Positions."

Detailed Description Text (155):

The Evaluated Assets report provides evaluated listings of securities holdings for selected account(s) as of the selected reporting date. The report can be provided in three levels of detail, including a recap level, a summary level, and a detail level. The recap level report provides totals for all postings for the selected date and account(s), as well as the total accrued income, total market value, total book value, unrealized appreciation/loss, and the total value for unevaluated items. The summary level report provides identification and valuation information for each security that meets the selection criteria. The detail level report provides additional information fields, including price date, pool number prefix for MBS securities, amortized units, ticker symbol, book value, rating for the security, and the unrealized profit or loss.

Detailed Description Text (156):

The Cash Projection report provides a listing of anticipated cash flow for selected accounts as of the selected statement date. The report can be provided in three levels of detail, including a recap level, a summary level, and a detail level. The recap level report provides information listings for each day in which there is projected income, including principal and income amounts, total activity and debits, credits, and net amounts for closing balance/net, federal funds, and next day funds. The summary level report provides identification and cash amount information about each projected cash transaction and lists the transactions by the projected date. The detail level report provides additional information items, including class, additional security description lines, broker code, trade, pay, and maturity dates, pool number prefix for MBS securities, current factor, face value, and the interest and dividend rates.

Detailed Description Text (163):

The messages window contains: menus for functions available for message processing, setting parameters, and exiting from the application; a tool bar to provide quick access to the principal functions; a summary list to provide information to identify current messages and their status; command buttons active for the processing and items selected; and an information bar to provide information for identifying the current state of the application and the environment.

CLAIMS:

2. The system of claim 1, wherein each of said financial messages of said second type contain an address data element for identifying to which processing facility a message is to be delivered.

13. The system of claim 11, further comprising a security means for preventing access to the first menu structure until a valid user identification and password are entered into the computer system.

15. The system of claim 1, wherein said financial messages of said first and second

types each contain a header portion and a business message portion, said header portion containing a series of defined data elements that identify at least the message type, customer, account, and date.

27. The electronic delivery system of claim 25, wherein said messages comprise a header portion containing a series of defined data elements that identify at least the message type, customer, account, and date.

30. The electronic delivery system of claim 25, wherein the messages comprise a header portion containing a series of defined data elements that identify at least the message type, customer, account, and date, and the means for retrieving the stored messages comprises means for selectively retrieving only messages having a particular data element in the header portion of the messages.